Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

resignation of Dr. Fisher and the inauguration of Dr. Braun, by request of the Trustees he acted as President of the College. In 1869, having reached the age of seventy-four, he resigned his chair of instruction.

The closing years of his life were passed quietly in Clinton. A green and cheerful old age, free from complaint and full of genial sympathy, was his enviable portion. He kept up his studies to the end. His mind was characterized by strength and clearness in all logical processes. He was a close observer, and much given to reflection. He was deliberate and cautious in forming his conclusions, and believed nothing so important as accuracy and truth. In all his intercourse with men he was conspicuous for candor and simplicity. He uniformly looked upon the bright side of life. A fund of native humor was always at his command, and he loved the pleasures of social life, which he could well enliven with anecdote and repartee. He was singularly charitable in all his judgments. At peace with God and man, he fell asleep in a good old age, leaving the record of a good and useful life, and beloved and lamented by all who knew him.

HENRY DRAPER.

HENRY DRAPER was born, March 7, 1837, in Prince Edward County, Virginia. He died in November, 1882. His father, Professor John W. Draper, early directed his son's thoughts toward science, and the researches of the son seem to have been the outcome of the father's work. By the death of Henry Draper, the world has lost the accumulated scientific experience of two lives.

John W. Draper began his scientific career as Professor of Chemistry at Boydton, Virginia. It was here that Dr. Henry Draper was born. In 1839 the father was appointed Professor of Chemistry in the University of New York, and the son, at the age of fifteen, entered the Freshman Class of the institution over which the father presided. During the Junior year he left college, entered the Medical School, and graduated with the degree of Doctor in Medicine in 1858. His graduating thesis was a valuable investigation upon the functions of the spleen, by means of microphotography. During the process of this work he discovered the use of palladium protochloride in darkening collodion negatives. His work in college, and especially in the Medical School, gave promise of his future distinction. Those who knew him at that time speak of his scientific tastes and of his bright and active mind. He spent the year after his graduation in Europe, and was especially interested in instruments and appliances for scientific research. It is said that a visit to Lord Rosse's great reflecting telescope turned his attention especially to solar physics. On his return, he entered Bellevue Hospital as an assistant, and retained the position sixteen months. It was his intention to become a practising physician, but in 1860 he accepted the position of Professor of Physiology in the academic department of the University of New York. The civil war, which had just begun, called for the services of all trained young men, and he was appointed, in 1862, surgeon of the Twelfth Regiment of New York Volunteers.

In 1866 he was appointed to the chair of Physiology in the Medical School, and continued in this position until 1873. The present flourishing condition of the School is said to be largely due to his enthusiasm, to his personal contributions, and to his executive ability. While occupying the chair of Physiology he was engaged in many researches. With a fifteen and a half inch reflecting telescope, constructed under his supervision, he took photographs of the moon fifty inches in diameter. In 1872 he built with his own hands a reflecting telescope of twenty-eight inches' aperture, and, in August, 1872, first succeeded in photographing a star spectrum, — that of Vega. During the same year he made a photograph of the diffraction spectrum of the sun, extending from the neighborhood of G to O.

There seem to have been two epochs in his scientific career which are marked by his contributions to science. In the first epoch, from 1864 to 1870, he published the following works: — "A Text-Book of Chemistry." "Philosophical Use of Silvered Glass Reflecting Telescopes" (Phil. Mag.). "Silvered Glass Telescopes and Celestial Photography." "Petroleum, its Importance and its History." "American Contributions to Spectrum Analysis." "Construction of a Silvered Glass Telescope of fifteen and a half inches' Aperture, and its Use in Celestial Photography" (Smithsonian Institution Contributions, Vol. XIV., 1864).

From 1872, and onward till his death, photography played an important part in all his researches, the second epoch having been prepared for during the first. The following are the principal papers which have been published: — "On the Diffraction Spectrum Photography" (American Journal of Science, 1872). "Astronomical Observations on the Atmosphere of the Rocky Mountains" (American Journal of Science, 1877). "Spectra of Venus and α Lyræ in 1877" (American Journal of Science). "Discovery of Oxygen in the Sun by Photography, and a new Theory of the Solar Spectrum." "On the Coincidence of the Bright Lines of the Oxygen Spectrum with Bright Lines in the Solar Spectrum," 1877. "Eclipse of the Sun in July, 1878" (published in 1878). "Photographing the Spectra of the Stars and Planets," 1879. "Photography of Jupiter's Spectrum, and Photographs of the Nebula in Orion," 1880. "Photographs of the Spectrum of the Comet of June, 1881."

His work upon the photography of stellar spectra continued from 1872 until his death, and he has left a large number of valuable photographs, which promise to exercise great influence upon the direction of modern astronomical investigation. Although he began with the use of reflectors, most of his subsequent astronomical work was done with an eleven and a half inch refractor. With this instrument he made his well-known photographs of the Nebula of Orion.

In 1874 he superintended the photographic work of the Transit of Venus Commission, and the United States government in honor of his able work caused a special gold medal to be struck, which bears upon the face the words, "Decori decus addit avito," and upon the reverse, "Famam extendere factis, hoc virtutis opus."

Perhaps his most famous investigation is that upon the presence of oxygen in the sun. The results of this investigation are, if fully substantiated by subsequent observers, extremely important. The method of procedure was to photograph the solar spectrum side by side with that of oxygen. The entire investigation is well worthy of study, not from its results alone, but from its refined and delicate methods. In the photographs the bright lines of the oxygen spectrum coincide with certain bright spaces between the dark lines of the solar spectrum. In regard to the conclusions of Dr. Draper, Prof. C. A. Young of Princeton remarks: "Naturally there has been some scepticism and discussion as to the correctness and soundness of his conclusions; but no one with an unprejudiced mind can, we think, resist the evidence after careful examination of the plates, especially those obtained during his second and still more elaborate investigation of the subject in 1878–79." This investigation illustrates the scientific position of Dr. Draper better, perhaps, than any we can choose. His early training as a chemist, his active years spent in the mysteries of photography, and his ample fortune, fitted him to undertake such an investigation. It is by reflecting upon the methods of this work, and upon its results, that we can appreciate how much the scientific world has lost. At present, photography seems the most potent means for studying the light of the stars, for unravelling the mysteries of the sun, and for estimating the energy of molecular movements in general.

The practical photographer speaks to-day of loading the molecules by putting various gums into emulsions in order to make the molecules vibrate slower. This metaphorical expression is extremely suggestive, and opens to the imagination the immense field in which Dr. Draper was a master. Photography has already shown us the solar spectrum far beyond the limits of the visible red, and it is said that, had Dr. Draper lived even through the brief space of a twelvemonth longer, he would have succeeded in photographing stars which could not be detected, through the telescope he was using, by the eye.

GEORGE PERKINS MARSH.

George Perkins Marsh was born at Woodstock, in the State of Vermont, on the 15th of March, 1801. He was elected an Associate Fellow in Class III., Section 2, of the Academy, on the 29th of January, 1851. He died at Vallombrosa, in Italy, on the 24th of July, 1882, closing peacefully a long career of great and unceasing usefulness in the service of the republic and of learning.

We cannot wonder that the death of a man so pure, so kindly, so noble and earnest in purpose, and so strong in deed, should call forth, as it does, the reverent and loving sorrow of two nations that he loved perhaps equally, and which he had successfully striven to bring into relations of serviceable friendship during the years in which he represented the one at the court of the other. This republic has lost a loyal, watchful, wise, and able servant, who has caused its name to be honored and loved, not only by reason of his eminent diplomatic services during twenty-five years, but also by the power of his personal worth. United Italy grieves as for a foster-father, who brought to the help of its trembling infancy the strong sympathy of a sturdy republic in the vigor of its early prime. Perhaps it will never be fully known how greatly this noble man strengthened the hands of both the kings of new Italy, as they struggled to break away from the chains of priestcraft and the relics of feudalism into the freedom of self-government.

How high a rank our late Associate held as a student and expounder of truth in the fields of natural science, of philosophy, of political economy, of archæology, of philology, and of literature, is attested by the many learned societies, both in this and in other countries, that deemed it an increase of honor to themselves to write his name in their lists of members.

What Mr. Marsh was as a friend and counsellor is happily known